

CLAIMS

1. A natural alkaline earth metal carbonate in particulate form having a d_{50} of about 0.5 μm or less and a moisture pick up (as herein defined) of less than about 0.2wt%.
2. The alkaline earth metal carbonate of claim 1, having a surface moisture content less than about 0.25 wt% based on the dry weight of the carbonate.
3. The alkaline earth metal carbonate of claim 2, having a surface moisture content less than about 0.20 wt% based on the dry weight of the carbonate.
4. The alkaline earth metal carbonate according to claim 1, 2 or 3 wherein the particles of the carbonate have been treated with a hydrophobising agent.
5. The alkaline earth metal carbonate according to claim 4, wherein the hydrophobising agent is an aliphatic carboxylic acids having from about 10 to about 24 carbon atoms in their chain.
6. The alkaline earth metal carbonate according to claim 5, wherein the hydrophobising agent is selected from stearic acid, palmitic acid, montanic acid, capric acid, lauric acid, myristic acid, isostearic acid and cerotic acid and mixtures thereof.
7. The alkaline earth metal carbonate of claim 4, 5 or 6, having a surface moisture content less than about 0.25 wt% based on the dry weight of the carbonate, preferably less than about 0.20 wt% based on the dry weight of the carbonate.
8. The alkaline earth metal carbonate of any preceding claim, wherein the d_{50} of the filler is at least about 0.2 μm .
9. The alkaline earth metal carbonate according to claim 8, wherein the d_{50} is about 0.4 μm or less.
10. The alkaline earth metal carbonate according to claim 9, wherein the d_{50} is about 0.4 μm .
11. The alkaline earth metal carbonate according to any preceding claim, which has a surface area of less than about $14\text{m}^2/\text{g}$ as measured by the BET nitrogen method.
12. The alkaline earth metal carbonate according to claim 11, wherein the BET nitrogen surface area is at least about $10\text{ m}^2/\text{g}$.
13. The alkaline earth metal carbonate according to claim 12, wherein the BET nitrogen surface area is about $12\text{ m}^2/\text{g}$.

14. The alkaline earth metal carbonate according to any preceding claim, which is obtained by grinding a natural source of a calcium carbonate, magnesium carbonate, calcium magnesium carbonate or barium carbonate.
15. The alkaline earth metal carbonate according to claim 14, which is obtained by grinding a natural source of calcium carbonate selected from chalk, limestone or dolomite.
16. The alkaline earth metal carbonate according to claim 14, which is obtained by grinding marble.
17. The alkaline earth metal carbonate according to claim 14, 15 or 16, wherein the carbonate filler is one which is essentially free of hygroscopic and hydrophilic chemicals.
18. A process for making a particulate alkaline earth metal carbonate, comprising grinding a natural source of alkaline earth metal carbonate under conditions to produce a particulate material having a d_{50} of about 0.5 μm or less and a surface area of less than about $14 \text{ m}^2/\text{g}$ as measured by the BET nitrogen method.
19. A process according to claim 18, wherein the natural source of alkaline earth metal carbonate is dry ground.
20. A process according to claim 18, wherein the natural source of alkaline earth metal carbonate is wet ground.
21. A process according to claim 20, wherein the amount of water soluble hydrophilic dispersant remaining following grinding is not greater than about 0.05% by dry weight of carbonate.
22. A process according to any one of claims 18 to 21 wherein the particulate material is dried to a state such that not more than about 0.25 wt% surface moisture content remains associated with the material.
23. A process according to claim 22, wherein the particulate alkaline earth metal carbonate is treated with a hydrophobising agent, the resulting treated carbonate having a surface moisture content of no more than about 0.25 wt%.
24. A process for making a particulate alkaline earth metal carbonate, comprising processing a natural source of alkaline earth metal carbonate under conditions including grinding conditions to produce a particulate material having a d_{50} of about 0.5 μm or less and a moisture pick up (as herein defined) of less than about 0.2wt%.
25. A process according to claim 24, wherein the natural source of alkaline earth metal carbonate is dry ground.

- 17 -

26. A process according to claim 24, wherein the natural source of alkaline earth metal carbonate is wet ground.
27. A process according to claim 26, wherein the amount of water soluble hydrophilic dispersant remaining following grinding is not greater than about 0.05% by dry weight of carbonate.
28. A process according to any one of claims 24 to 27 wherein the particulate material is dried to a state such that not more than about 0.25 wt% surface moisture content remains associated with the material.
29. A process according to claim 28, wherein the particulate alkaline earth metal carbonate is treated with a hydrophobising agent, the resulting treated carbonate having a surface moisture content of no more than about 0.25 wt%.
30. A process according to any one of claims 24 to 29, wherein the particulate material has a surface area of less than about 14 m²/g as measured by the BET nitrogen method.
31. A polymer composition comprising a polymer material, and a natural alkaline earth metal carbonate as claimed in any one or more of claims 1 to 17.
32. A polymer composition according to claim 31, wherein the polymer composition is a moisture-curing polymer composition.
33. A polymer composition as claimed in claim 32, wherein the polymer is one which includes silane groups.
34. A polymer composition as claimed in claim 33, wherein the moisture-curing polymer is selected from polyurethanes provided with terminal silane groups, polyether polymers with terminal silane groups and polysulfide polymers with terminal silane groups.
35. A polymer composition according to claim 31 wherein the polymer composition is a two-component polyurethane system.
36. A polymer composition as claimed in claim 31-35, comprising at least about 25% of the natural alkaline earth metal carbonate based on the total weight of the composition.
37. A polymer composition as claimed in claim 31-36, comprising up to about 75% of the natural alkaline earth metal carbonate based on the total weight of the composition.
38. A polymer composition as claimed in claim 31-35, comprising from about 40 to about 70wt% of the natural alkaline earth metal carbonate based on the total weight of the composition.

- 18 -

39. A polymer composition of claims 31-38 which is a sealant, a mastic, a coating, an adhesive, a plastisol or a rubber.
40. A cured element obtained by curing the polymer composition of claims 31-39.